

NEW DISTRIBUTION AND FOODPLANT OBSERVATIONS FOR BUTTERFLIES (LEPIDOPTERA) IN NEW SOUTH WALES

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Abstract

New distribution records are provided for 14 species of butterflies from the western slopes, plains and coast of New South Wales. In addition, host plant records are provided for several species and *Hypochrysops cyane* (Waterhouse & Lyell) is newly recorded from *Cupaniopsis anacardiodes* (Sapindaceae).

Observations

HESPERIIDAE

Herimosa albovenata weemala (L.E. Couchman, 1954) (Figs 1-8)

The authors recently extended the range of this subspecies from Gunnedah south-west to 5 km west of Dubbo (Moore and Petrie 2014). Subsequent collecting in 2014 and 2015 has extended this further east to 17 km north-west of Mudgee (-32.2543, 149.5343) at 485 m.

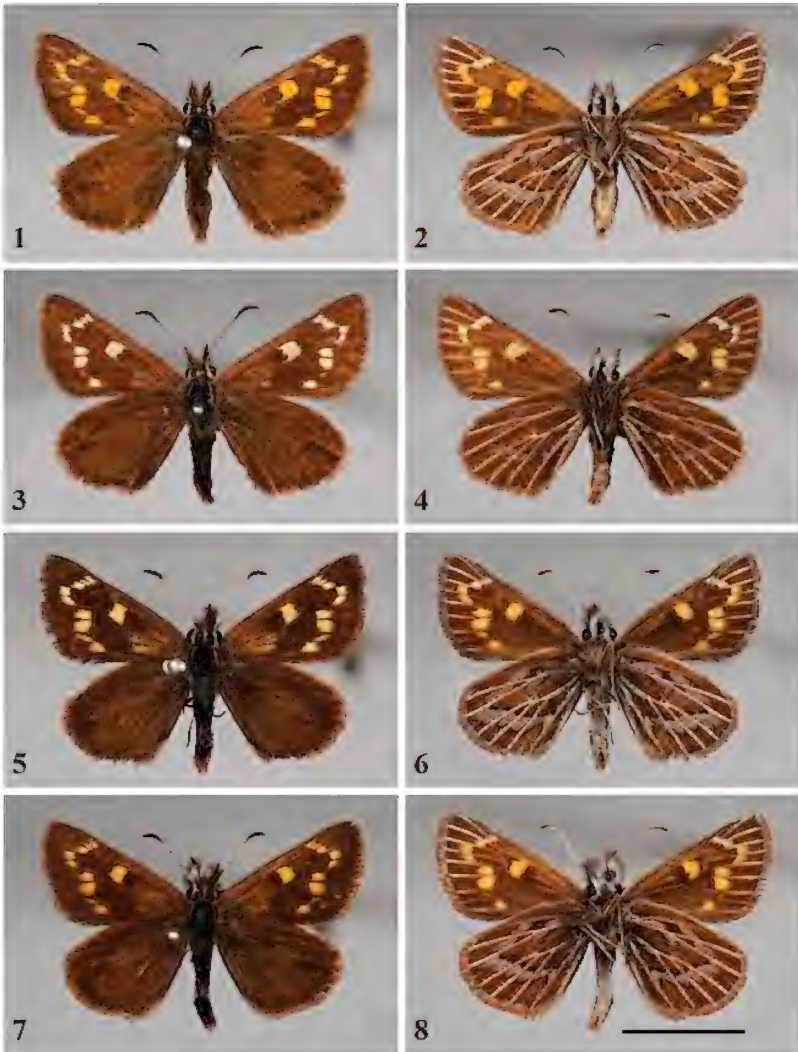
Adults of both sexes were active from 0900 to 1600 hrs on sunny days in early to mid-September, typically on bare patches of ground in semi-cleared box woodland and fully open cleared paddocks. They favoured a highly disturbed roadside area, where significant soil disturbance by bulldozers had created bare areas of shale and soil interspersed with grasses. Adults of both sexes occupied these small areas and defended them from other individuals. Adults flew as early as 0900 hrs, with the air temperature at only 8°C, by sunning themselves on warm areas of bare earth.

The species was not evident in these localities on another visit in mid-October, where individuals of *Taractrocera papyria* (Boisduval, 1832) and *Toxidia parvulus* (Plötz, 1884) occupied the same lekking areas. There is an abundance of *Austrostipa glabra* (Poaceae) at this locality and, on 11 September 2016, a pupa was found in a shelter on *Austrostipa* (Fig. 9). A male emerged on 16 September 2016, confirming the host plant at this location.

Toxidia parvulus (Plötz, 1884)

An adult male was collected on 11 October 2014 in mixed open box woodland and *Callitris* pine forest, 24 km east of Mudgee (-32.7266, 149.7548) at 560 m.

A second adult male was collected on 12 October 2014, 17 km north-west of Mudgee (-32.2543, 149.5343) at 485 m. These are the first records of *Toxidia parvulus* from west of the Great Dividing Range (Dunn and Dunn 1991).



Figs 1-8. *Herimosa albovenata weemala* (Couchman, 1954) from 17 km NW of Mudgee, NSW, September 2015: (1, 3) upperside and (2, 4) underside of two females; (5, 7) upperside and (6, 8) underside of two males. Scale line on Fig. 8 equals 10 mm and applies to all. Specimens in EP collection.



Fig. 9. Pupa of *Herimosa albovenata weemala* on an *Austrostipa* plant from 17 km NW of Mudgee, NSW, in September 2016.

Trapezites lutea (Tepper, 1882)

A final instar larva was collected in mid-September from a small-leaved blue *Lomandra* sp. (Xanthorrhoeaceae), in ironbark woodland 1 km north-east of Dubbo (-32.2258, 148.6601) at 323 m. It was reared in Sydney on this plant and a female emerged on 15 October 2014. Pupal duration in October at Sydney was 21 days.

An adult male was collected on 5 October 2008, 50 km south-east of Mudgee (-32.9307, 149.8524), in open paddock grassland at 600 m with three associated *Lomandra* spp present.

A second adult male was collected on 11 October 2014 in mixed open box woodland and *Callitris* pine forest, 24 km east of Mudgee (-32.7266, 149.7548) at 560 m, flying in association with *Toxidia parvulus* and *Taractrocera papyria*.

A third adult male was collected on 11 September 2013, east of Gunnedah near the turnoff to Lake Keepit (-30.9574, 150.5297) at 313 m.

These distribution records confirm that this species is widespread in the central west of New South Wales.

Hesperilla idothea (Miskin, 1889)

A female emerged on 28 October 2014 from a pupa collected on 25 October 2014 on *Gahnia melanocarpa* (Cyperaceae), at Hungry Head near Urunga (-30.5214, 153.0274). This is an unusual north-coastal location for this species.

Hesperilla donnysa donnysa (Hewitson, 1868)

Several early instar larvae were collected on 12 October 2014 from *Gahnia radula* (Cyperaceae), near Minore Road west of Dubbo (-32.2544, 148.5301) at 302 m. One larva survived to pupate on 20 February 2015 and a female emerged on 9 March 2015. Braby (2000) listed the western extent of this species as Cowra; therefore this is an additional western record for this species. A male was collected on 16 March 2013 flying around *Gahnia* sp. near Maria River Road, Riverside (north of Port Macquarie: -31.3823, 152.8664), thus confirming older records of this species at this location (Dunn and Dunn 1991).

Hesperilla hopsoni (Waterhouse, 1927)

This species was commonly found as adults (emerging 9-19 December 2012) and, prior to that, as immature stages (4-5 December 2012) on *Gahnia siberiana* (Cyperaceae), near Grass Tree Picnic area in Werrikimbe National Park (-31.1503, 152.3581). This record provides a further intermediate location between populations at Ebor and Barrington Tops.

LYCAENIDAE

Deudorix diovis (Hewitson, 1863)

Braby (2000) recorded this species as reaching Gosford with two odd records farther south. Over the past two years *Deudorix diovis* has been sighted regularly and captured in the Sydney suburbs of Chatswood and Marrickville. Adults appear from November to April with a peak flight period in late March.

At Marrickville the butterfly is now breeding on *Harpullia pendula* and *Cupaniopsis anacardioides* (both Sapindaceae), which are common footpath verge trees in this Sydney suburb. At both localities adult males and females fly around favoured trees of both species, in association with *Erysichton lineata* (Murray, 1874) and *Prosotas felderi* (Murray, 1874).

Pupae can be found at the bases of trees provided plenty of leaf mulch is present and it is these trees that adults frequent. The species appears not as abundant in Sydney as in localities such as Coolum Beach on the Sunshine Coast where, at times, up to 50 pupae can be found in leaf litter at the base of individual host trees and adults are abundant around these trees. EP has lived and collected in Sydney since 1970 and *D. diovis* did not occur until the proliferation of suitable host plants in suburban street lines in the last decade. The butterfly now appears to be permanently established in Sydney.

Hypocrypsops cyane (Waterhouse & Lyell, 1914)

Cupaniopsis anacardiodes (Sapindaceae) is recorded as a new larval host plant for this species at Nelson Bay, New South Wales. Adults were collected as larvae on 17 January 2001 and reared to adults in Sydney. Pupal duration in February was 14-18 days.

Ogyris amaryllis amaryllis (Hewitson, 1862)

Specimens were collected and reared from pupae 6 km west of Mudgee (-32.7266, 149.7548) at 495 m in October and November 2014.

These specimens are highly variable in the colour and extent of the blue central areas. Some are identical with coastal specimens from Port Stephens and Pokolbin, while others have the blue areas reduced and approach *Ogyris amaryllis amata* (Waterhouse, 1934) from Tuggeranong, ACT in appearance.

Philiris innotatus innotatus (Miskin, 1874).

On 27 February 2015, around the carpark at Hungry Head near Urunga (-30.5213, 153.0274), many mature larvae and pupae were found on small sandpaper figs (*Ficus* sp: Moraceae) and adults emerged between 8 and 13 March 2015. Additionally, on 14 April 2016, several male and female adults were found at the Orara River rest area near Ramornie (-29.6517, 152.7994), confirming a 1966 record by Peters (1969). Further, on 16 April 2015 a solitary, worn adult female was collected on the North Shore of Port Macquarie (-31.3885, 152.9206), confirming the previous southern record for this species of two male specimens collected in 1935 by T.R. Raine and M.F. Day (Peters 1969).

Candalides absimilis absimilis (C.Felder 1862).

A single male was recorded from a hilltop west of Gunnedah (11 February 2011: -30.9733, 150.1454). Braby (2009) suggested that '*C. absimilis absimilis* ... is otherwise known only from the coastal areas east of the Great Escarpment.' The present record might be an introduction through nursery stock of *Brachychiton*, but may also show establishment of the species at this location. Braby (2009) also suggested that hill-topping was an unusual activity for *Candalides absimilis absimilis*.

NYMPHALIDAE

Euploea tulliolus tulliolus (Fabricius, 1793).

An adult female in good condition was collected on 16 April 2015 on the North Shore of Port Macquarie, confirming a previous southern sight record for this species in Port Macquarie (Moore and Ginn 2009)

Oreixenica latialis (Waterhouse and Lyell 1914)

E.D. Edwards (in Braby 2000) recorded the northernmost population at the Boyd R. near Kanangra Walls, New South Wales. On 26 March 2015 adults were abundant 11 km north of Boyd R (-33.8867, 150.0460) at 1235 m,

establishing a new northern record for this species. Specimens are markedly yellower than the closest known population at Ginini Flats, ACT, where the orange markings are much richer in colour. The specimens from this new locality show a much closer affinity with Prussian Creek and Sawpit Creek populations near Mt Kosciusko than with the Ginini Flats specimens.

Oreixenica lathioniella herceus (Waterhouse & Lyell, 1914)

An interesting isolated population was discovered at Mt Gibraltar near Bowral (-34.4674, 150.4286), in April 2014 at above 900 m. Specimens at this location are consistently larger and brighter than those from both Ebor and the Blue Mountains. Adults flew very late in the season, with the first not appearing until the end of the first week of April and peaking by 15 April. This locality is abundant in satyrids earlier in the season, with *Geitoneura acantha* (Donovan, 1804), *Geitoneura klugii* (Guérin-Ménéville, 1830), *Heteronympha merope* (Fabricius, 1774), *Heteronympha penelope* Waterhouse, 1937, *Heteronympha paradelpa* Lower, 1893, *Heteronympha banksii* (Leach, 1814), *Tisiphone abeona* (Donovan, 1803) and *Argynnina cyrila* Waterhouse & Lyell, 1914 all being present and common, but by the time *Oreixenica lathioniella* (Westwood, 1851) is on the wing, with the exception of a few worn *H. banksii* and *H. merope*, all other satyrids there have completed their flight season.

Acknowledgement

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